Claims:

1. A heat transfer recording sheet comprised of
   a support layer;
   an adhesive layer; and
   at least one ink receiving layer comprising a microporous polymeric film including at least one thermoplastic polymer, wherein the microporous polymeric film is hydrophilic.

2. The heat transfer recording sheet according to Claim 1 further comprising a release layer between said support layer and said adhesive layer.

3. The heat transfer recording sheet according to Claim 2 wherein said release layer is comprised of wax or silicon.

4. The heat transfer recording sheet according to Claim 1 wherein the thickness of said microporous polymeric film is 10 to 100 μm.

5. The heat transfer recording sheet according to Claim 1 wherein said thermoplastic polymer is selected from the group consisting of polyolefin, polyester, polyamide, and polyurethane.

6. The heat transfer recording sheet according to Claim 5 wherein said polyolefin is selected from the group consisting of polyethylene and polypropylene.

7. The heat transfer recording sheet according to Claim 1 wherein said thermoplastic polymer is a polyolefin and a polar functional monomer copolymer.

8. The heat transfer recording sheet according to Claim 7 wherein said polyolefin is polypropylene.

9. The heat transfer recording sheet according to Claim 7 wherein said monomer is selected from the group consisting of acrylic acid, acrylate, methacrylic acid, methacrylate, maleic acid, maleic anhydride, vinyl acetate, vinyl alcohol, vinyl chloride, vinylidene chloride and styrene.

10. The heat transfer recording sheet according to Claim 1 wherein said microporous polymeric film further comprises a hydrophilic polymer melt additive to form a blend.

11. The heat transfer recording sheet according to Claim 10 wherein said polymeric melt additive is comprised of a surfactant.

12. The heat transfer recording sheet according to Claim 10 wherein the amount of thermoplastic polymer in said blend is between 80 and 99.9% by dry weight and the amount of polymeric melt additive in the blend is between 0.1% and 20% by dry weight.

13. The heat transfer recording sheet according to Claim 1 wherein said ink receiving layer is coated with at least an additional ink receiving layer.

14. The heat transfer recording sheet according to Claim 13 wherein said additional ink receiving layer is a comprised of a microporous polymeric film.

15. The heat transfer recording sheet according to Claim 13 wherein said additional ink receiving layer is comprised of a microparticle coating of inorganic pigment and binder.

16. The heat transfer recording sheet according to Claim 15 wherein said inorganic pigment is selected from the group consisting of calcium carbonate, alumina, silica, and an a combination of at least two of the above.

17. The heat transfer recording sheet according to Claim 15 wherein said binder is selected from the group consisting of polyurethane, polyvinyl alcohol, and modified polyvinyl alcohol.

18. The heat transfer recording sheet according to Claim 1 wherein said adhesive layer is comprised of a material selected from the group consisting of silicon based, acrylic based, polyolefin copolymer, polyvinyl alcohol and polyvinyl acetate, pressure sensitive adhesives.

19. The heat transfer recording sheet according to Claim 1 wherein said support layer is comprised of a material selected from the group consisting of paper, cloth, nonwoven fabric and thermo heat-resistant plastic film.

20. The heat transfer recording sheet according to Claim 1 wherein said microporous polymeric film is ink jet printable.

21. A method of heat transferring images onto a target substrate comprising:

providing a heat transfer recording sheet wherein said recording sheet is comprised of a support layer, an adhesive layer; and an ink receiving layer comprising at least one microporous polymeric film including at least one thermoplastic polymer, wherein said microporous polymeric film is hydrophilic;

printing an image on said recording sheet;

positioning said recording sheet on a target substrate such that the printed image is in contact with said target substrate;

applying heat and pressure to the surface of said recording sheet that is opposite to the surface containing the image;

removing said support layer such that the image remains on said target substrate.

22. The method of claim 21 wherein the target substrate is selected from the group consisting of paper, plastic, textiles, wood, metal, glass, ceramics, leather, formica and plaster.

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